

IN THE CLAIMS:

This listing of the claims will replace all prior versions in the application.

1. (currently amended) A catalyst composition for polymerization of olefins comprising (a) a catalyst precursor comprising at least one each of the compounds i, ii, and iii, wherein i) is a transition metal compound represented by the formula ~~M₄~~ MX₄, MOX₃ or MX₃ wherein M represents titanium, vanadium or zirconium and X represents a halogen atom, ~~at least one~~ ii) a metallocene compound, at least one and iii) titanate compound represented by the general formula Ti(OR¹)_nX_{4-n}, wherein R¹ represents an alkyl group, aryl group or cycloalkyl group having 1 to 20 carbon atoms, X represents a halogen atom, n represents a number satisfying 0 < n < 4, and also a magnesium compound, and an organic polymeric support, and (b) a cocatalyst comprising an alkylaluminum compound or an aluminoxane compound.

2-3. (canceled)

4. (previously presented) The catalyst composition according to claim 1, wherein the transition metal compound comprises titanium tetrachloride, titanium trichloride, vanadium tetrachloride, vanadium trichloride, vanadium oxytrichloride or zirconium tetrachloride.

5. (currently amended) The catalyst composition according to claim 1, wherein the metallocene compound is represented by the general formula (Cp)_zMX_y, wherein M represents a transition metal comprising titanium, vanadium or zirconium, Cp represent an unsubstituted or substituted cyclopentadienyl ring, X represents a halogen atom, z is 1 or 2, and y is 2 or 3.

6. (canceled)

7. (previously presented) The catalyst composition according to claim 5, wherein the metallocene compound comprises bis(cyclopentadienyl)titanium dichloride, bis(methylcyclopentadienyl)titanium dichloride, bis(butylcyclopentadienyl)titanium dichloride,

bis(pentamethylcyclopentadienyl)titanium dichloride, cyclopentadienyltitanium trichloride, methylcyclopentadienyltitanium trichloride, butylcyclopentadienyltitanium trichloride, pentamethylcyclopentadienyltitanium trichloride, bis(cyclopentadienyl)vanadium dichloride, bis(methylcyclopentadienyl)vanadium dichloride, bis(butylcyclopentadienyl)vanadium dichloride, bis(pentamethylcyclopentadienyl)vanadium dichloride, cyclopentadienylvanadium trichloride, methylcyclopentadienylvanadium trichloride, butylcyclopentadienylvanadium trichloride, pentamethylcyclopentadienylvanadium trichloride, bis(cyclopentadienyl)zirconium dichloride, bis(methylcyclopentadienyl)zirconium dichloride, bis(butylcyclopentadienyl)zirconium dichloride, bis(pentamethylcyclopentadienyl)zirconium dichloride, cyclopentadienylzirconium trichloride, methylcyclopentadienylzirconium trichloride, butylcyclopentadienylzirconium trichloride; or pentamethylcyclopentadienylzirconium trichloride.

8. (previously presented) The catalyst composition according to claim 7, wherein the metallocene compound is bis(cyclopentadienyl)titanium dichloride, bis(methylcyclopentadienyl)titanium dichloride, bis(butylcyclopentadienyl)titanium dichloride, bis(pentamethylcyclopentadienyl)titanium dichloride, cyclopentadienyltitanium trichloride, methylcyclopentadienyltitanium trichloride, butylcyclopentadienyltitanium trichloride, or pentamethylcyclopentadienyltitanium trichloride.

9. (canceled)

10. (previously presented) The catalyst composition according to claim 7, wherein the titanate compound is methoxytitanium trichloride, dimethoxytitanium dichloride, tetramethoxytitanium, ethoxytitanium trichloride, diethoxytitanium dichloride, tetraethoxytitanium, propoxytitanium trichloride, dipropoxytitanium dichloride,

tripropoxytitanium chloride, tetrapropoxytitanium, butoxytitanium trichloride, dibutoxytitanium dichloride or tetrabutoxytitanium.

11. (previously presented) The catalyst composition according to claim 8, wherein the titanate compound is tetraethoxytitanium, tetrapropoxytitanium, or tetrabutoxytitanium.

12-13. (canceled)

14. (currently amended) The catalyst composition according to claim 7, wherein the magnesium compound comprises a Grignard compound represented by the general formula R^3MgX , wherein R^3 is a hydrocarbon group having 1 to 20 carbon atoms and X is a halogen atom, or a dialkyl magnesium compound represented by the general formula R^4R^5Mg , wherein R^4 and R^5 are each a hydrocarbon group having 1 to 20 carbon atoms.

15. (presently amended) The catalyst composition according to claim 10, wherein the magnesium compound comprises diethylmagnesium, di-n-propylmagnesium, di-isopropylmagnesium, di-n-butylmagnesium, di-isobutylmagnesium, butylethylmagnesium, ~~dihethylmagnesium~~ dihexylmagnesium, dioctylmagnesium, butyloctylmagnesium, ethylmagnesium chloride, butylmagnesium chloride or hexylmagnesium chloride.

16. (previously presented) The catalyst composition according to claim 1, wherein the polymeric support is in the form of particles having a mean particle diameter of about 5 to 1000 microns and a pore volume of at least about $0.05 \text{ cm}^3/\text{g}$ and a pore diameter of about 20 to 10000 angstroms and a surface area of about 0.1 to $100 \text{ m}^2/\text{g}$.

17. (presently amended) The catalyst composition according to claim 10, wherein the organic polymeric support is in the form of particles having a mean particle diameter of about 5 to 1000 microns, a pore diameter from about 500 to 10000 angstroms and a surface area from about 0.2 to $15 \text{ m}^2/\text{g}$.

18. (currently amended) The catalyst composition according to claim 17, wherein the organic polymeric support is selected from the group consisting of polyvinylchloride, polyvinylalcohol polyethylmethacrylate, polymethylmethacrylate, ethylene-vinylalcohol copolymer and polycarbonate.

19. (previously presented) The catalyst composition according to claim 18, wherein the polymeric material is polyvinylchloride.

20. (canceled)

21. (previously presented) The catalyst composition according to claim 15, wherein the magnesium compound is present in the range of about 0.05 to 20 mmol per gram of polymeric support.

22. (previously presented) The catalyst composition according to claim 5, wherein the alkylaluminum compound is represented by the general formula $R^6_nAlX_{3-n}$ wherein R^6 represents a hydrocarbon group having 1 to 10 carbon atoms; X represents a halogen and n represents a number satisfying $0 < n < 3$.

23. (presently amended) The catalyst composition according to claim 14, wherein the alkylaluminum compound is trimethylaluminum, triethylaluminum, tri-isobutylaluminum or ~~tri-n-hexylaluminum~~ tri-n-hexylaluminum.

24. (presently amended) The catalyst composition according to claim 5, wherein the aluminoxane compound is represented by the general formula $R^7R^8Al-O-AIR^9R^{10}$ $R^7R^8Al-O-AIR^9R^{10}$, wherein R^7 , R^8 , R^9 , R^{10} are either the same or different linear, branched or cyclic alkyl group having 1 to 12 carbons.

25. (previously presented) The catalyst composition according to claim 14, wherein the aluminoxane compound is methylaluminoxane or modified methylaluminoxane (MMAO).

26. (previously amended) The catalyst composition according to claim 5, wherein the cocatalyst is present in an amount of about 10 to 10000 in terms moles of aluminum in the cocatalyst to moles of transition metal in the catalyst precursor.

27. (withdrawn) A process for polymerizing olefins comprising contacting a feed comprising at least one olefin under olefin polymerization conditions with a catalyst composition according to claim 1.

28. (withdrawn) The process according to claim 27, wherein said process is performed in gas phase, slurry phase or solution phase.

29. (canceled)

30. (withdrawn) The process according to claim 28, wherein said olefin feed comprises at least one linear olefin and at least one alpha olefin selected from the group comprising propene, 1-butene, 1-hexene, 1-octene and 4-methyl 1-pentene.